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A NEW SUBSPECIES OF *CHAMAEA FASCIATA* (WRENTIT) FROM OREGON (AVES: TIMALIINAE)

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Abstract.—Geographic variation in plumage color of *Chamaea fasciata* (Wrentit) from northern California and southern Oregon is related to climate. A new subspecies, *Chamaea fasciata margra,* is described from a disjunct population of southern interior Oregon. Colonization of *C. fasciata* in interior Oregon was perhaps from birds crossing coniferous forests via isolated balds of *Ceonothus.* Recent increases of Wrentits in interior Oregon may be in response to habitat alterations (deforestation, fires) and concurrent global warming.

Chamaea fasciata (Wrentit) is a permanent resident from northwestern Oregon to northern Baja California. The American Ornithologists' Union (A.O.U. 1957) and Deignan (1964) recognized six subspecies: *C. f. phaea* Osgood, from the humid coastal belt of northwestern Oregon to the California border; *rufula* Ridgway, from the humid coastal belt of northern California to Marin Co.; *intermedia* Grinnell, from the interior and southern areas of the San Francisco Bay region; nominate *fasciata* Gambel, from coastal Monterey Co. to central San Luis Obispo Co., California; *henshawi* Ridgway, from central interior and southern coastal California to the border of Mexico, with a disjunct population in interior southwestern Oregon; and *canicauda* Grinnell & Swarth, from Baja California. Phillips (1986) recognized only four subspecies, treating *intermedia* as a synonym of nominate *fasciata* and *canicauda* as a synonym of *henshawi.* He characterized *phaea* as the darkest subspecies, *rufula* as darker than nominate *fasciata,* and *henshawi* as the palest and grayest subspecies.

Phillips (1986:179) stated that birds from northcentral California are "highly variable" and that "*fasciata*-like" birds range north to Oregon. Although Phillips did not mention specimens from southern interior Oregon west of the Cascades, he referred to two specimens from Klamath Falls, Klamath Co., east of the Cascade Mountains, as "too rich below for *henshawi.*" He also reported that Swarth had identified the two specimens as "intermediate between *phaea* and *henshawi* . . . simulating *fasciata,*" but Phillips (1986) stated that "surely *phaea* is not involved." Although birds from the interior of northern California and southern Oregon were discussed by Phillips in his "Remarks" section under *henshawi,* he did not identify them to subspecies, and gave the northern range of this pale subspecies as central California. I compared specimens of *C. fasciata* to identify the subspecies from the interior of southern Oregon.

Methods

I examined 319 adult *C. fasciata* (numbers of specimens in parentheses), including all known specimens from interior Oregon from southern Douglas (3), Josephine (3), Jackson (6), and Klamath (2) counties, and examples from northern interior California from Siskiyou (5), Trinity (18), Shasta (23), and Tehama (17) counties (Fig. 1) and from other localities from interior California (93). I also examined specimens of *phaea* (27), *rufula* (31), *intermedia* (48), and nominate *fasciata* (42). I excluded *canicauda.*

Specimens were compared for variation

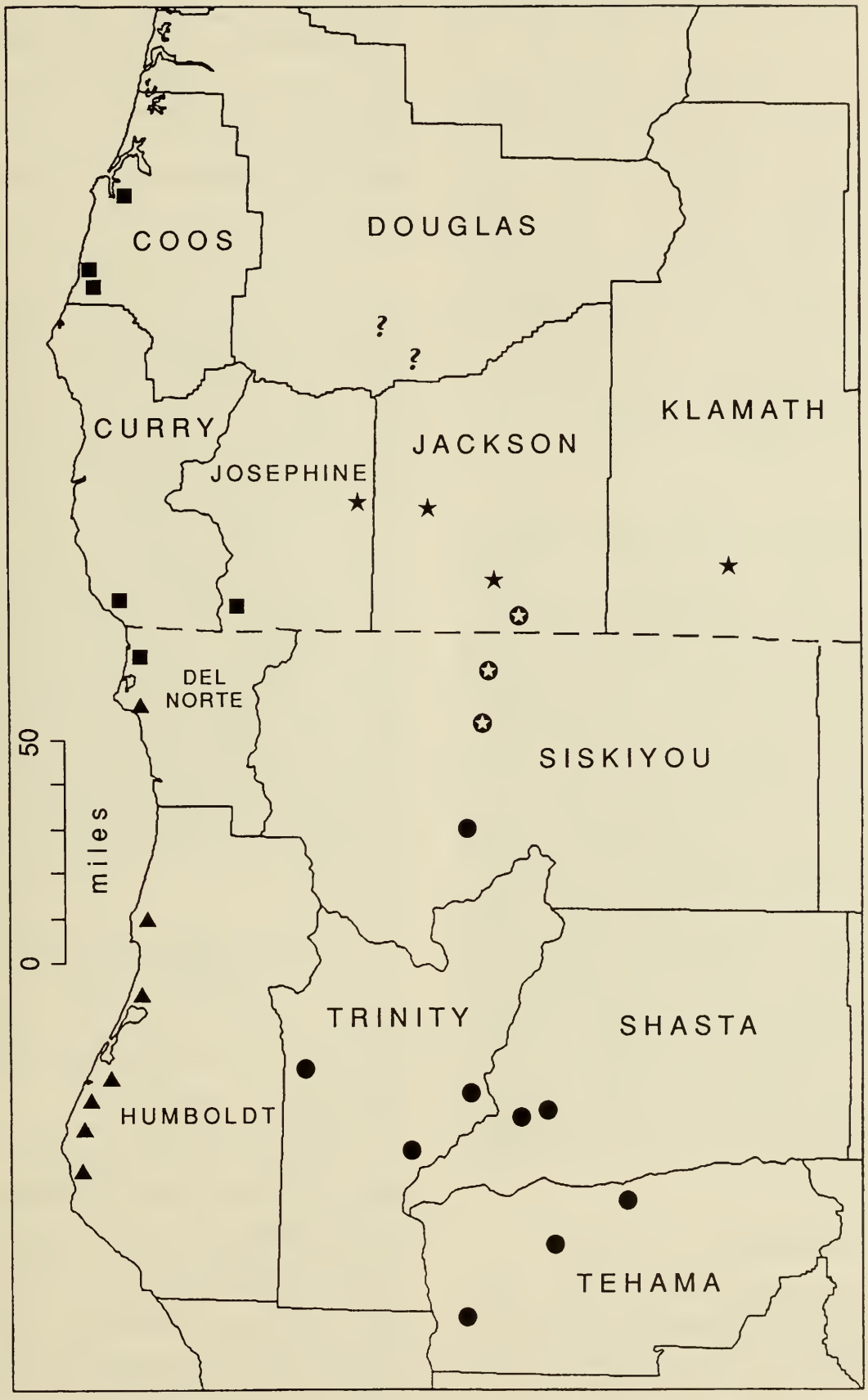

Fig. 1. Localities of specimens examined of *Chamaea fasciata* subspecies from southern Oregon and northern California: *phaea* (■), *rufula* (▲), *margra* (★), *henshawi* (●), *margra* × *henshawi* (✪), and subspecies unknown (?).

Table 1.—Tail lengths of adult male *Chamaea fasciata*.

Subspecies[a]	*n*	Range	Mean	*SD*
phaea	11	73.9–83.0	78.8	2.88
margra	4	73.7–83.0	78.2	
henshawi[b]	15	76.8–88.8	81.2	3.70
rufula[c]	13	76.9–84.6	80.0	2.35
intermedia	11	79.7–88.4	85.6	2.38
fasciata[d]	6	79.6–86.3	84.0	

[a] Specimens from entire range unless otherwise indicated.
[b] Specimens from northern interior California.
[c] Seven specimens from northern coastal California and six from Marin County, California.
[d] Specimens from Monterey County, California.

in plumage color and size. Tail lengths of males with unworn rectrices were compared (Table 1). Tail length of females averages shorter than males in populations from central California (Bowers 1960). Too few females were available in this study for meaningful comparisons. Preliminary analyses of other standard measurements of specimens from Oregon and northern California show no geographic variation. Plumages of males and females are alike in color (Bowers 1960, Pyle et al. 1987), and sexes were combined in making comparisons. Plumage colors were determined from specimens collected in fall and winter. Capitalized names of colors are from Ridgway (1912) and their nearest available equivalents following a slash (/) are from Smithe (1975), with my modification in lower case. Abbreviations of museums are given in the acknowledgments.

Geographic Variation

Specimens from coastal Oregon, northwestern coastal California, and northern interior California are characterized as follows:

Tail length.—There is minor geographic variation in tail lengths of males (Table 1). Males from coastal Oregon average only 2.4 mm smaller than birds from interior California; 18% of the Oregon birds have shorter tails than those from California and 33% of the California birds are longer than those from Oregon. Tail length of males from central coastal California (e.g., nominate *fasciata* and *intermedia*) average longer than others from California and Oregon (Table 1); 82% of the central coastal California birds have longer tails than those from Oregon.

Crown color.—The crowns of specimens from coastal Oregon are darker (near Clove Brown/Fuscous) and browner (less grayish) than the brownish-Mouse Gray/brownish Glaucous of interior California populations. The crowns of birds from northwestern coastal California are usually slightly paler than in the coastal Oregon populations.

Back and upper tail coverts.—The back and upper tail coverts of specimens from coastal Oregon and Del Norte and Humboldt counties in northwestern coastal California are darker and more reddish-brown (near Warm Sepia/Burnt Umber) than birds from other populations. Compared to the coastal populations, birds from the remainder of northwestern California, including worn specimens, are browner (less reddish). Specimens from the interior of northern California are pale, averaging near Hair Brown/Drab, and range in color from grayish-brown to brown. Birds from extreme northern Siskiyou Co., California (Hornbrook, Yreka), are slightly darker and browner than other specimens from interior California.

Lower parts.—The color of the upper and lower breast is slightly darker and more reddish (near Fawn Color) in specimens from coastal Oregon than in birds from northwestern California. Specimens from interior northern California are much paler below than are coastal populations. Birds from Trinity and Shasta counties average darker (near Pale Vinaceous Pink) below than those from Tehama Co. (Light Pinkish Cinnamon to Pinkish Buff/pale Flesh Color); those from farther south average even paler below.

Flanks and under tail coverts.—The color of the flanks and under tail coverts is

browner (less gray) in northern coastal specimens (pale Natal Brown/Russet) than in interior California birds. However, the flanks of birds from extreme northern Siskiyou Co. are browner than those of specimens from elsewhere in interior California.

Taxonomic Status of the Southern Oregon Populations

Although there is considerable individual variation in interior California populations, there is also clinal variation in color. Birds from northern interior California are browner (less gray) above and are darker pink below than those from farther south. Specimens from Hornbrook and Yreka, Siskiyou Co., in northern interior California are intermediate between examples of *henshawi* and new and older specimens from the Rogue River Valley in Jackson and Josephine counties, Oregon. Birds from the Rogue River Valley are isolated geographically (Fig. 1) and ecologically from the northern interior California populations and differ consistently from them in the color of the upper and lower parts. The population is here named

Chamaea fasciata margra, new subspecies

Holotype.—USNM 597165 (formerly SOC 1441), adult, sex ?, Perozzi Acres south of Southern Oregon State College campus, Ashland, Jackson Co., Oregon, collected 29 Apr 1984 by M. Gould.

Diagnosis.—Both sexes of the new subspecies are identical in plumage color, and are noticeably browner (Bister/dark Raw Umber) and less grayish above than *henshawi* from central Siskiyou, Trinity, Shasta, and Tehama counties, California, and less reddish-brown above than *phaea* and *rufula.* Below, *margra* is paler (Pinkish Cinnamon/very pale Flesh Color) than *phaea* and is more pinkish (less whitish) than *henshawi.* The flanks and undertail coverts are browner (Wood Brown) than in *phaea* and less grayish than in *henshawi.* The colors of the cheek and crown are closer to *phaea* than to *henshawi.* The new subspecies resembles the geographically distant nominate *fasciata* in the colors of the back, upper tail coverts, breast, throat, and flanks, but differs in having a dark brownish-gray (not chocolate brown) crown and less pinkish undertail coverts. Compared to *intermedia,* specimens of *margra* collected in March have slightly grayer (less brownish) flanks and birds collected in the fall are paler brown above. Tail length averages shorter in adult male *margra* than other subspecies (Table 1).

Distribution.—Rogue River Valley in Jackson and eastern Josephine counties, Oregon.

Paratypes.—Josephine Co.: SD 24468, female, Grants Pass, 10 Dec 1918; OSU 4489, 4490, 4491, males, Gold Hill, 24, 28, 29 Mar 1916.

Etymology.—The name *margra* is a combination of Marvin and Grace (Browning), my parents, who made it possible for me to name the subspecies.

Remarks.—A specimen from Louse Creek near Grants Pass that was thought to be in the Carnegie Museum (Gabrielson & Jewett 1940) could not be located. A male and female (SD) from Klamath Falls, Klamath Co. (Phillips 1986), collected 7 November 1912, with tail lengths of 80.0 and 78.1 mm, respectively, are slightly paler above than *intermedia* and are definitely darker above and below than *henshawi.* I tentatively assign the two to *margra.* A worn specimen (CAS) from Siskiyou, in southern Jackson Co., Oregon, is similar to *margra* below but is slightly grayer above. Two worn specimens (CAS) from Hornbrook in northern Siskiyou Co., California, are similar below and are slightly grayer than the Siskiyou, Oregon specimen. I consider the specimens as *margra*>*henshawi.* Another intergrade, an adult (CAS) from Yreka, California, only about 12 miles south of Hornbrook, has a pale (nearly white) lower belly similar to most

specimens of *henshawi* but it is otherwise within the range of variation in *margra*. A relatively unworn female (SOC) from 9 miles west and 4 miles south of O'Brien (about 40 miles SW of Grants Pass), Josephine Co., Oregon, collected 22 July 1960, is referable to *phaea*.

Gullion (1948) found a small colony of Wrentits 5 miles northwest of Roseburg in the Umpqua River watershed, Douglas Co., in April 1947. He described two birds as "somewhat grayer and lighter" than *phaea*, and stated that the birds "undoubtedly" represent *henshawi*. Although the A.O.U. (1957), apparently following Gullion (1948), listed Roseburg as the northern limit of the breeding range of *henshawi*, there are no specimens from that locality; the A.O.U. (1983) did not include interior Oregon in the range of the species *C. fasciata*. Three specimens collected south of Roseburg in Douglas Co. (Fig. 1) are definitely darker and browner than *henshawi*. A specimen (SD) from 3 miles southeast of Canyonville (=20 miles south of Roseburg), collected 1 October 1987, is dorsally darker brown than *margra* and less reddish than *phaea*, and is paler ventrally than either subspecies. Two worn individuals (USNM) from the former town of Anchor (about 10 miles east of Azalea; 28 miles south of Roseburg), collected 7 August 1916, are similar to worn individuals of *phaea*. I prefer not to assign the specimens from Douglas Co. to a subspecies until additional material becomes available.

Discussion

The Rogue River Valley is unique vegetationally and is drier and hotter than other regions of western Oregon (Detling 1961, Franklin & Dyrness 1973). The chaparral habitat (*Ceanothus cuneatus* and *Arctostaphylos* sp.) in the Valley during July averages cooler and wetter than in Siskiyou Co., California (Detling 1961). Morphological characteristics of some species of birds from the Valley differ from the remainder of Oregon, and are similar to populations from northern interior California. Subspecies in *Parus inornatus* and *Pipilo fuscus*, both described from specimens from the Valley, also occur in northern interior California. The third such example is *Chamea fasciata margra*.

Populations of *C. fasciata* are sedentary, although immatures may move upslope in summer (Verner et al. 1980). Bowers (1960) concluded that the sedentary habit in the species results in slow transmission of genetic characters. He reported steep gradients in color between some populations of *C. fasciata* from central-western California, with dark birds occurring in regions of dense vegetation and high humidity; pale birds were from regions of less dense vegetation and lower humidity. Birds that differ in color were sometimes separated by relatively short geographic distances (20 to 40 miles) and small ecological differences (Bowers 1960).

The distance between the southern range of *margra* and the northern range of *henshawi* is likewise short, and differences in climate are small. These two populations are also separated by the Siskiyou Mountains. Balds of chaparral occur on the drier and eastern slopes of these mountains, with coniferous forests on the western and northern slopes. The population from the Rogue River Valley is also disjunct from other populations from Oregon (Fig. 1).

The postglacial distribution of chaparral once extended to the Columbia River but the habitat became restricted to the Rogue and Umpqua river valleys with increasing precipitation and decreasing temperature (Detling 1961). Colonization by *C. fasciata* of the Rogue River Valley was perhaps from individuals moving up the Siskiyou Mountains via isolated balds of *Ceonothus* that occur on the drier eastern and southern exposures, and crossing coniferous forests of the northern and western slopes to the Valley floor.

Gabrielson (1931) reported Wrentits from three localities in the Rogue River Valley, but Gabrielson & Jewett (1940) and Browning (1975) regarded the species as uncommon there. Wrentits are now fairly common in the region, are regularly reported on Christmas Bird Counts in Roseburg, and in the last decade the species has been reported in interior Oregon as far north as the Columbia River at Portland. The species is not known north of the Columbia River (contra Root 1988). Deforestation, fires (also opening some regions to chaparral [Franklin & Dyrness 1973]), and concurrent global warming may be contributing to increased habitat for *C. fasciata*. Because variation in color in the species is a response to climate and vegetation (Bowers, 1960), studies of geographic variation in the northern parts of the range are desirable.

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